

## ERGONOMIC APPROACH TO THE RAISING OF SERVICE QUALITY IN D CAMPUS INTERNET LOUNGE GUNADARMA UNIVERSITY

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### ABSTRACT

*The service quality defined as a measurement of the service level which is given that related to users' expectation. The service in Internet Lounge in D Campus Gunadarma University is provided as a means to the students in using internet free. But it does not mean that the users have not right to give critics and suggestions to the service they get when enjoying it. This research emphasizes on an analysis to effort of the raising of Internet Lounge service quality and ergonomics approach. Research methods which are used are questionnaires, interview, and photos which are taken to show activities in Internet Lounge service room as an analysis matter. The service can be given maximally to create quality and work system which is good and comfortable to the users. Based on the analysis in using ergonomic approach, we may take some considerations to arrange work system effectively and comfortably so that the Internet Lounge service quality can be raised.*

*Key Word: Service Quality, Ergonomic, Internet Lounge*

### INTRODUCTION

The measurement of the service level which is given that related to the users' expectation. The users' expectation is measured by the comfort and the satisfaction of the users. In this case, the users are the students of Gunadarma University. Internet is the important thing to the students, especially for helping the effectiveness of learning teaching process, the source of information and communication.

*Internet Lounge* is a place where the students are able to use internet free, only by showing KTM (Kartu Tanda Mahasiswa/ Identity Card of the Students) to the assistants. This free internet is one of the services which is supported by the set of computers and man's energy. The set of computers consist of software and hardware. In this case, man's energy is the assistants who operate the computer center. The users' satisfactions' depend on the comfort which felt.

The comfort in the internet service has to be felt by the students though the using in *Internet Lounge* is given free. The comfort has not been felt yet because the students have to stand as long as the using of the internet. Ergonomic approach is the method which is used to analyze the problem. As the result, the

ergonomic approach is applied to the raising of service quality in D Campus *Internet Lounge* Gunadarma University.

Based on the problem above, we can assume that the aim of the research is to identify any factors which influence the ergonomic of *Internet Lounge* room to increase the comfort, the effectiveness of service, and to reduce boredom of the users/visitors and others negative effects which are caused by the condition of the *Internet Lounge* room which less guaranteed.

### LITERATUR STUDY

The service quality defined as the measurement of the service level which is given that related to the users' expectation. The service can be defined as process which is given by producer to give the comfort and the satisfaction to the consumers.

Ergonomic is a science which finds and collects the information about behaviors, abilities, boundaries and characteristics of man to the designing of machine, equipment, work system, and environment which is productive, safe, comfortable, and effective for man. Man is a complex human being. At first, ergonomic mastered by psychologist when operator choosing became major. Ergonomic is a branch of systematic science to use information about the



abilities and the boundaries of man to design work system so that man can live and work in a system which is good, effective, safe and comfortable. Ergonomic is the study of relationship between man and its work environment. Ergonomic is a terminology which has been widely used in Europe and America. In America, the term is well-known as *Human Engineering* or *Human Factors*. Systematically, ergonomic approach is used for designing building so that it will produce the suitable product, system or work environment for man who can increase the efficiency, effectiveness, productive work and create the system and environment which is suitable, safe, comfortable, and healthy.

The ergonomic development has caused man's thought change. One of the ergonomic developments is the development of ergonomics macro which include productivity, safety, and quality of work life overall.

## RESEARCH METHOD

In order to get a good research so that it is needed a research method which can help to finish the problem which has been identified before because the research method is the process of thinking systematically which consist of the research stages which will be done.

The stage in the research is doing introduction study. Through the study, it can be got the perspective of the auditorium clearly. The result of the study is used to formulate problem and the aim of the research. The research is done by using ergonomic approach.

Collecting data is done by giving questionnaires to 30 students of Gunadarma University. Field observation to the objects which are needed such as taking the photos from many angles in *Internet Lounge* room is also used.

The result from the collecting data which are collected is analyzed then. After analyzing the questionnaires' answer, we can give any suggestions and the answer of the research.

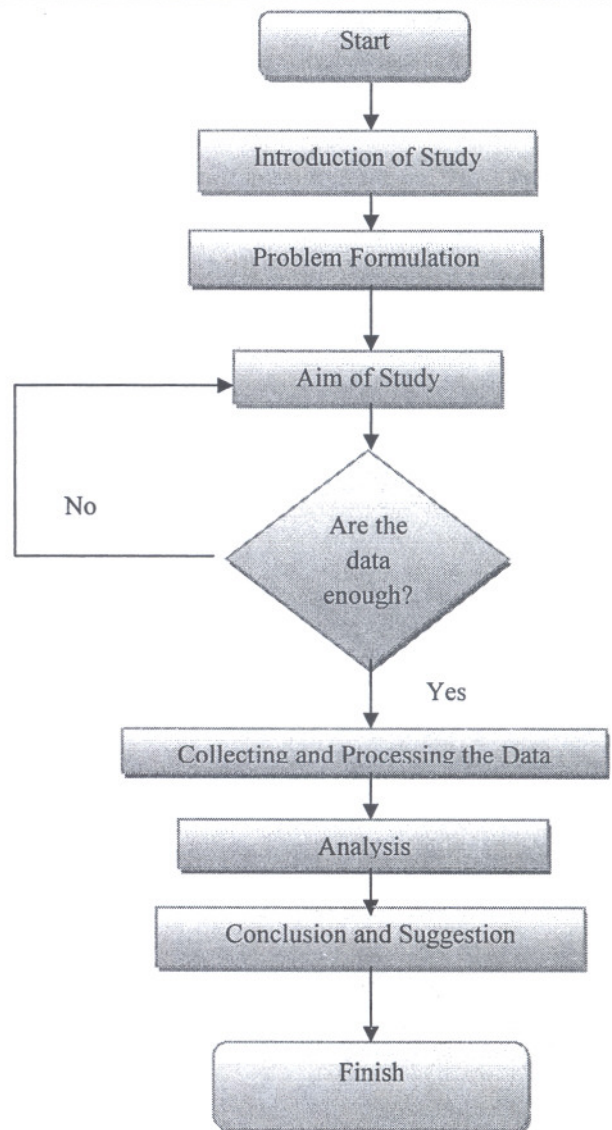


Fig. 1 Flowchart of the Research

## RESULT AND ANALYSIS

According to the data which get from the result of study which connected with study that will be learnt, Ergonomic Approach to the Raising Service Quality in *Internet Lounge* D Campus Gunadarma University.

Observations located in *Internet Lounge* D campus Gunadarma University. *Internet Lounge* specially presented for campus society, including students and lectures.



## DESCRIPTION OF INTERNET LOUNGE

*Internet Lounge* located in D Campus (next to Library), operated since 08.00 to 17.00 P.M. *Internet Lounge* can be freely enjoyed by all of students of Gunadarma University. Students just show their ID card to the assistants that can be viewed on Fig. 2.



Fig. 2 Checking ID Card by Assistants

According to measurement of temperature with thermometer, temperature of *Internet Lounge* room is  $21^{\circ}\text{C}$ . And if we study with literature review as a consideration shows that the optimum temperature to human condition is  $24^{\circ}\text{C}$  [4]. The temperature of the room showed fresh and comfort conditions, and a good setting of the air circulation showed positive conditions.

Meanwhile, the result of measuring used *sound level meter*, noise of the *Internet Lounge* room is 36 dB, it considered as a quite good condition. But this condition changes when train crosses the railroad. It happens because Campus D Gunadarma University located next to railroad of "KRL". Level of noise can rapidly raise about 64.2 dB when the train crosses. This condition is not appropriate with recommended condition, 20 -40 dB [4]. Another effect of crossing train is mechanic vibration which is felt by costumers of *Internet Lounge*.

## Collecting and Processing the Data.

In order to make this research is appropriate; we need data that will be used. After it collected, the next step is processing the data.

Data are collected from questionnaire that given to respondent, questionnaire is closed or structured questionnaire. The populations of this research are the students of university of Gunadarma. The technique sampling of this research is *probably sampling*, with *simple random sampling* as method that used in this research. Physic evidences of *Internet Lounge*, validity, and reliability based in making this questionnaire.

After the questionnaire appropriated with researcher's expectation, next thing is we tested the validity and reliability of the questionnaire. Validity test in this research used construct validity test, the formula that used is correlation technique formula, *product moment*. Otherwise, the calculation of reliability used *cronbach' alpha* method. Based on statistic test used support of software SPSS 11,5 and table of *Critics Correlation Values (r)Product Moment* with level of trust is 95 % ( $\alpha = 5\%$ ) and total of questionnaire are ( $n = 30$ ), then we have 0,361 as table value. Because of calculation value is higher than table value ( $r_{hitung} > r_{table}$ ), then the question of questionnaire characterized a valid question. Meanwhile the value of alpha 0.8131 positive and higher than other existed values in *Colum alpha if item deleted*, made the questionnaire can be identified too as reliable questionnaire. According to result of questionnaire we can conclude that the quality of *Internet Lounge* in D campus Gunadarma University is not good enough in operating computer. 4.3 Ergonomic Analysis.

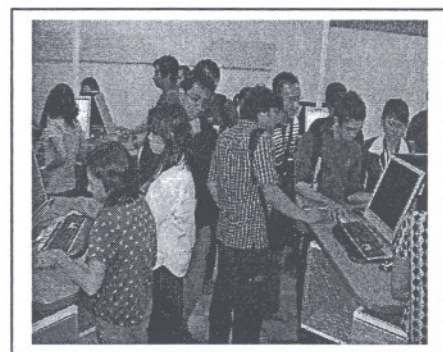


Fig. 3 Position of Internet Users



## Ergonomic Analysis

Based on the result of the observation, generally the condition of ergonomic in *Internet Lounge D* campus Gunadarma University hasn't stuck completely. You can see from the placing position of computer that doesn't appropriate with the posture of human body, and the user who is show not good position after they stand too long in operating the computer. You can see in the Fig. 4 below.



Fig. 4. The Internet user after stand too long

If the condition like this, and doesn't get good respond, or not fully get the attention and remedy continuously, and the user feel painful in waist and feel tired in muscle foot. Automatically the user will feel physical tiring.

There are solutions to solve that problem which are to provide chair and to conduct it in the room of internet lounge so that it can be seen more tidy, effective and comfortable.



Fig. 5. The student who choose for using laptop

The condition of registration place (look picture 2) and the table for placing the computer (look picture 3) it should be designed to watch the average tall of student, so appropriated with the body's posture.

The noise in the room of Internet Longue in D campus Gunadarma University caused by the train that passes through campus and it is not good for the student in *Internet Longue*. The amount of noise in the room of internet Longue increase to 64,2 dB, this thing beyond noise from the suggestion which is 20-40 dB [4]. The visitors of *Internet Lounge* feel the mechanical vibration when the train KRL passes by.

There are three aspects to determine the quality of sound that can determine the level of disturbing to human which are: a long time, intensity, and frequency. The longer our ear listen the noisy so the worst affect that we can get which is more decrease our listening. If the level of condition of intensity in the room of Internet Longue doesn't remedy, so it can disturb the assistance and the user facilities of Internet Longue. To solve it, we need insulator system such as: the tool or muffle sound material so the room of Internet Longue calmer.

Mechanical vibration that caused by the train KRL and if we doesn't give attention continuously it can be a problem for the assistance and the visitor of *Internet Longue*. In general, this mechanical vibration can disturb the body such as: influence the concentration our work, tired, and can cause many disease such as disturbing in nerve, eyes, the blood circulations, muscles, bones, etc. [4].

To muffle the mechanical vibration need insulator system such as: the tool or muffle sound material so the room of *Internet Longue* more calm and comfortable. This is as the same as the disturbing solution.

## CONCLUSION

There are many factors which are influence the room of *Internet Longue* which is the

temperature and good air circulation, the level of noise with the intensity that has been suggestion, the design placing of computer, registration place, and design in placing the tools and equipment.

Meanwhile the negative effect which caused by the condition of *Internet Lounge* rooms that less of guarantee which is indicate unwanted condition especially for assistance or visitor of *Internet Longue* such as tiring in muscles, feel painful in waist, influence to earring, and other physical symptom.

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